

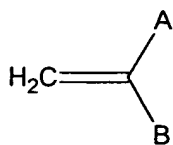
### Amendments to the Claims:

1. (Currently Amended) ~~Process~~ A process for the formation of a polymer film on an electrically conducting or semiconducting surface by electrografting, ~~characterized in that it consists comprising:~~

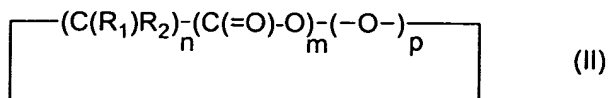
- a) in preparing an electrolytic solution comprising one or more electropolymerizable monomers and at least one source of protons which is chosen from compounds which are Bronsted acids in the said electrolytic solution, the said source of protons being present in an amount of between 50 and 100 000 ppm with respect to the total amount of the constituents of the said electrolytic solution; and
- b) in electrolysing the said solution in an electrolysis cell by using the conducting or semiconducting surface to be covered as working electrode and at least one counter electrode, to result, by electroreduction or electro-oxidation of the said solution, in the formation of an electrografted polymer film on the said surface.

2. (Currently Amended) ~~Process~~ The process according to Claim 1, characterized in that wherein the Bronsted acids are chosen from water; hydrogen fluoride; ammonium fluoride; nitrous acid; molecules carrying carboxylic acid groups or ammonium, amine, pyridinium or phenol groups; sulphuric acid; nitric acid; hydrogen chloride; perchloric acid and molecules carrying sulphuric, sulphonic or thiol groups.

3. (Currently Amended) ~~Process~~ The process according to Claim 1 ~~or 2~~, characterized in that wherein the electropolymerizable monomers are chosen from activated vinyl monomers and from cyclic molecules cleavable by nucleophilic attack corresponding respectively to the following formulae (I) and (II):



(1)



in which:

- A, B, R<sub>1</sub> and R<sub>2</sub>, which are identical or different, represent a hydrogen atom; a C<sub>1</sub>-C<sub>4</sub> alkyl group; a nitrile group; an organic functional group chosen from the following functional

groups: hydroxyl, amine:  $\text{-NH}_x$  with  $x = 1$  or  $2$ , thiol, carboxylic acid, ester, amide:  $\text{-C(=O)NH}_y$  in which  $y = 1$  or  $2$ , imide, imidoester, acid halide:  $\text{-C(=O)X}$  in which  $X$  represents a halogen atom chosen from fluorine, chlorine, bromine and iodine, acid anhydride:  $\text{-C(=O)OC(=O)-}$ , nitrile, succinimide, phthalimide, isocyanate, epoxide, siloxane:  $\text{-Si(OH)}_z$  in which  $z$  is an integer between  $1$  and  $3$  inclusive; benzoquinone, carbonyldiimidazole, para-toluene-sulphonyl, para-nitrophenyl chloroformate, ethylenic and vinyl, aromatic and in particular toluene, benzene, halobenzene, pyridine, pyrimidine, styrene or halostyrene and their substituted equivalents; a functional group which can complex cations; molecular structures substituted and/or functionalized starting from these functional groups; groups which can be cleaved by thermal or photon activation; electroactive groups; electrocleavable groups; and the mixtures of the abovementioned monomers and groups;

-  $n$ ,  $m$  and  $p$ , which are identical or different, are integers between  $0$  and  $20$  inclusive.

4. (Currently Amended) ~~Process~~ The process according to Claim 3, ~~characterized in that wherein~~ the activated vinyl monomers of formula (I) are chosen from acrylonitrile, methacrylonitrile, methyl methacrylate, ethyl methacrylate, butyl methacrylate, propyl methacrylate, hydroxyethyl methacrylate, hydroxypropyl methacrylate, glycidyl methacrylate, acrylamides, cyanoacrylates, diacrylates or dimethacrylates, triacrylates or trimethacrylates, tetraacrylates or tetramethacrylates, acrylic acid, methacrylic acid, styrene and its derivatives, para-chlorostyrene, pentafluorostyrene, N-vinylpyrrolidone, 4-vinylpyridine, 2-vinylpyridine, vinyl halides, acryloyl halides, methacryloyl halides, vinyl crosslinking agents or crosslinking agents based on acrylate, on methacrylate, and on their derivatives.

5. (Currently Amended) ~~Process~~ The process according to Claim 3, ~~characterized in that wherein~~ the cleavable cyclic molecules of formula (II) are chosen from epoxides, lactones, lactic acid, glycolic acid, oxiranes, and their mixtures and their derivatives.

6. (Currently Amended) ~~Process~~ The process according to Claim 1 ~~any one of the preceding claims, characterized in that wherein~~ the concentration of electropolymerizable monomers in the electrolytic solution is between  $0.1$  and  $10$  mol/l.

7. (Currently Amended) ~~Process~~ The process according to Claim 1 ~~any one of the preceding claims, characterized in that~~ wherein the electrolytic solution additionally comprises at least one solvent chosen from dimethylformamide, ethyl acetate, acetonitrile, tetrahydrofuran and chlorinated solvents.

8. (Currently Amended) ~~Process~~ The process according to Claim 1 ~~any one of the preceding claims, characterized in that~~ wherein the electrolytic solution comprises at least one support electrolyte.

9. (Currently Amended) ~~Process~~ The process according to Claim 1 ~~any one of the preceding claims, characterized in that~~ wherein the content of Bronsted acid is between 50 and 10 000 ppm.

10. (Currently Amended) ~~Process~~ The process according to Claim 1 ~~any one of the preceding claims, characterized in that~~ wherein the electrically conducting or semiconducting surface is a surface made of stainless steel, steel, iron, copper, nickel, cobalt, niobium, aluminium, silver, titanium, silicon, titanium nitride, tungsten, tungsten nitride, tantalum, tantalum nitride or a noble metal surface chosen from gold, platinum, iridium or iridium platinum surfaces.

11. (Currently Amended) ~~Process~~ The process according to Claim 1 ~~any one of the preceding claims, characterized in that~~ wherein the electrolysis of the electrolytic solution is carried out by polarization under potentiostatic or galvanostatic voltammetric conditions.

12. (Currently Amended) ~~Electrically~~ An electrically conducting or semiconducting surface, ~~characterized in that it is capable of being~~ obtained by employing the process as defined in Claim 1 ~~any one of Claims 1 to 11~~ and has having at least one face covered with an electrografted polymer film.

13. (Currently Amended) ~~Surface~~ A surface according to Claim 12, ~~characterized in that~~ wherein the polymer film has a thickness of between 10 nm and 10  $\mu$ m.